

### **ABSTRACT**

A multiphase buck type voltage regulator having at least two phases and including a first switching means that selectively connect a supply voltage to a load through a first current path; a second switching means that selectively connect said supply voltage to said load through a second current path; a first activation circuit that activates said first switching means; a first delay circuit that deactivates said first switching means after a first period of time; a second activation circuit that activates said second switching means; a second delay circuit that after a second period of time deactivates said second switching means; said first period of time depends on said supply voltage and on the output voltage; said second period of time depends on said supply voltage and on a voltage proportional to the difference of current that flows in said first and second current path.